

**INFORMATION DISCLOSURE CITATION**

(Use several sheets if necessary)

Attorney Docket No.
056291-5298Application No.
10/588,334Applicants: **Craig Johnstone et al.**PTO Form 1449
September 10, 2007Filing Date: **August 3, 2006**Group Art Unit: **1614****U.S. PATENT DOCUMENTS**

Initial		Document No.	Date	Name	Class	Sub-Class	Filing Date
	A01	US 2,750,393	June 12, 1956	Elpern			
	A02	US 2,967,194	January 3, 1961	Murray Hauptschein			
	A03	US 3,950,351	April 13, 1976	Rossignol et al.			
	A04	US 4,009,174	February 22, 1977	Cluzan et al.			
	A05	US 4,105,785	August 8, 1978	Mauvernay et al.			
	A06	US 4,146,631	March 27, 1979	Ford et al.			
	A07	US 4,434,170	February 28, 1984	Dostert et al.			
	A08	US 4,474,792	October 2, 1984	Erickson			
	A09	US 4,634,783	January 6, 1987	Fujii et al.			
	A10	US 5,258,407	November 2, 1993	Washburn et al.			
	A11	US 5,273,986	December 28, 1993	Holland et al.			
	A12	US 5,399,702	March 21, 1995	Holland et al.			
	A13	US 5,466,715	November 14, 1995	Washburn et al.			
	A14	US 5,510,478	April 23, 1996	Sabb			
	A15	US 5,661,153	August 26, 1997	Isobe et al.			
	A16	US 5,672,750	September 30, 1997	Perry, Robert James			
	A17	US 5,712,270	January 27, 1998	Sabb			
	A18	US 5,849,735	December 15, 1998	Albright et al.			
	A19	US 6,110,945	August 29, 2000	Head et al.			
	A20	US 6,197,798	March 6, 2001	Fink et al.			
	A21	US 6,200,995	March 13, 2001	De la Brouse-Elwood et al.			
	A22	US 6,207,693	March 27, 2001	Setoi et al.			
	A23	US 6,214,878	April 10, 2001	Bernardon, et al.			
	A24	US 6,316,482	November 13, 2001	Setoi et al.			
	A25	US 6,320,050	November 20, 2001	Bizzarro et al.			
	A26	US 6,369,229	April 9, 2002	Head et al.			
	A27	US 6,376,515	April 23, 2002	Zhu et al.			
	A28	US 6,388,071	May 14, 2002	Mahaney			
	A29	US 6,448,399	September 10, 2002	Corbett et al.			
	A30	US 6,486,349	November 26, 2002	Flitter et al.			
	A31	US 6,528,543	March 4, 2003	Bizzarro et al.			
	A32	US 6,545,155	April 8, 2003	Corbett et al.			
	A33	US 6,610,846	August 26, 2003	Bizzarro et al.			
	A34	US 6,613,942	September 2, 2003	Ling et al.			
	A35	US 2001027200	October 4, 2001	De la Brouse-Elwood et al.			
	A36	US 20020002183	January 3, 2002	Zhu et al.			

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		Document No.	Date	Country	Class	Sub-Class	Translation

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

Examiner	Date Considered
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		Document No.	Date	Country	Class	Sub-Class	Translation
	B34	JP 11292879	October 26, 1999	Japan			Yes
	B35	JP 50105559	August 20, 1975	Japan			Yes
	B36	JP 57021320	February 4, 1982	Japan			Yes
	B37	JP 57075962	May 12, 1982	Japan			Abstract
	B38	JP 58069812	April 26, 1983	Japan			Yes
	B39	JP 61205937	September 12, 1986	Japan			Yes
	B40	JP 62158252	July 14, 1987	Japan			Yes
	B41	JP 2000086657	March 28, 2000	Japan			Abstract
	B42	WO 91/09017	June 27, 1991	WIPO			
	B43	WO 94/04525	March 3, 2004	WIPO			
	B44	WO 95/20578	August 3, 1995	WIPO			
	B45	WO 95/35298	December 28, 1995	WIPO			Yes
	B46	WO 96/11902	April 25, 1996	WIPO			
	B47	WO 96/19455	June 27, 1996	WIPO			
	B48	WO 96/22282	July 25, 1996	WIPO			
	B49	WO 96/22293	July 25, 1996	WIPO			
	B50	WO 96/22294	July 25, 1996	WIPO			
	B51	WO 96/22295	July 25, 1996	WIPO			
	B52	WO 96/36619	November 21, 1996	WIPO			Yes
	B53	WO 96/41795	December 27, 1996	WIPO			
	B54	WO 97/24355	July 10, 1997	WIPO			
	B55	WO 97/36480	March 18, 1997	WIPO			
	B56	WO 97/46560	December 11, 1997	WIPO			Yes
	B57	WO 97/49707	December 31, 1997	WIPO			
	B58	WO 97/49708	December 31, 1997	WIPO			
	B59	WO 98/24771	June 11, 1998	WIPO			
	B60	WO 98/34632	August 13, 1998	WIPO			
	B61	WO 98/45242	October 15, 1998	WIPO			Yes
	B62	WO 99/00359	January 7, 1999	WIPO			
	B63	WO 99/00372	January 7, 1999	WIPO			
	B64	WO 99/20611	April 29, 1999	WIPO			
	B65	WO 99/24415	May 20, 1999	WIPO			Yes
	B66	WO 99/26944	June 3, 1999	WIPO			
	B67	WO 99/32477	July 1, 1999	WIPO			
	B68	WO 99/38845	August 5, 1999	WIPO			
	B69	WO 99/54301	October 28, 1999	WIPO			

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	B70	WO 99/62901	December 9, 1999	WIPO			
	B71	WO 00/02850	January 20, 2000	WIPO			Yes
	B72	WO 00/26202	May 11, 2000	WIPO			
	B73	WO 00/39118	July 6, 2000	WIPO			
	B74	WO 00/58293	October 5, 2000	WIPO			
	B75	WO 01/12621	February 22, 2001	WIPO			
	B76	WO 01/16097	March 8, 2001	WIPO			
	B77	WO 01/19788	March 22, 2001	WIPO			
	B78	WO 01/20327	March 22, 2001	WIPO			
	B79	WO 01/26652	April 19, 2001	WIPO			
	B80	WO 01/32639	May 10, 2001	WIPO			
	B81	WO 01/44216	June 21, 2001	WIPO			
	B82	WO 01/64642	September 7, 2001	WIPO			
	B83	WO 01/64643	September 7, 2001	WIPO			
	B84	WO 01/74791	October 11, 2001	WIPO			Yes
	B85	WO 01/83465	November 8, 2001	WIPO			
	B86	WO 01/83478	November 8, 2001	WIPO			
	B87	WO 01/85706	November 15, 2001	WIPO			
	B88	WO 01/85707	November 15, 2001	WIPO			
	B89	WO 02/00633	January 3, 2002	WIPO			
	B90	WO 02/064545	August 22, 2002	WIPO			
	B91	WO 02/08209	January 31, 2002	WIPO			
	B92	WO 02/14312	February 21, 2002	WIPO			
	B93	WO 02/24682	March 28, 2002	WIPO			
	B94	WO 02/26718	April 4, 2002	WIPO			
	B95	WO 02/26731	April 4, 2002	WIPO			
	B96	WO 02/28835	April 11, 2002	WIPO			
	B97	WO 02/42270	May 30, 2002	WIPO			
	B98	WO 02/46173	June 13, 2002	WIPO			
	B99	WO 02/48106	June 20, 2002	WIPO			
	B100	WO 02/79145	October 10, 2002	WIPO			
	B101	WO 03/000267	January 3, 2003	WIPO			
	B102	WO 03/015518	February 27, 2003	WIPO			
	B103	WO 03/022856	March 20, 2003	WIPO			
	B104	WO 03/024222	March 27, 2003	WIPO			
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		Document No.	Date	Country	Class	Sub-Class	Translation
	B105	WO 03/026652	April 3, 2003	WIPO			
	B106	WO 03/028641	April 10, 2003	WIPO			
	B107	WO 03/047626	June 12, 2003	WIPO			
	B108	WO 03/048152	June 12, 2003	WIPO			
	B109	WO 03/055482	July 10, 2003	WIPO			
	B110	WO 03/066613	August 14, 2003	WIPO			
	B111	WO 03/080585	October 2, 2003	WIPO			Yes
	B112	WO 03/082838	October 9, 2003	WIPO			Yes
	B113	WO 03/095438	November 20, 2004	WIPO			
	B114	WO 03/097824	November 27, 2004	WIPO			Yes
	B115	WO 2004/002481	January 1, 2004	WIPO			
	B116	WO 2004/031179	April 15, 2004	WIPO			
	B117	WO 2004/045614	June 3, 2004	WIPO			
	B118	WO 2004/046139	June 3, 2004	WIPO			
	B119	WO 2004/050645	June 17, 2004	WIPO			
	B120	WO 2004/052869	June 24, 2004	WIPO			
	B121	WO 2004/063179	July 29, 2004	WIPO			
	B122	WO 2004/063194	July 29, 2004	WIPO			
	B123	WO 2004/072031	August 26, 2004	WIPO			
	B124	WO 2004/072066	August 26, 2004	WIPO			
	B125	WO 2004/081001	September 23, 2004	WIPO			Yes
	B126	WO 2004/085406	October 7, 2004	WIPO			
	B127	WO 2004/110375	December 23, 2004	WIPO			
	B128	WO 2005/044801	May 19, 2005	WIPO			
	B129	WO 2005/049019	June 2, 2005	WIPO			
	B130	WO 2005/054200	June 16, 2005	WIPO			
	B131	WO 2005/054233	June 16, 2005	WIPO			
	B132	WO 2005/056530	June 23, 2005	WIPO			
	B133	WO 2005/063738	July 14, 2005	WIPO			Yes
	B134	WO 2005/066145	July 21, 2005	WIPO			
	B135	WO 2005/080359	September 1, 2005	WIPO			
	B136	WO 2005/080360	September 1, 2005	WIPO			
	B137	WO 2005/090332	September 29, 2005	WIPO			Yes
	B138	WO 2005/095417	October 13, 2005	WIPO			
	B139	WO 2005/095418	October 13, 2005	WIPO			
	B140	WO 2005/103021	November 3, 2005	WIPO			
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		Document No.	Date	Country	Class	Sub-Class	Translation
	B141	WO 2005/121110	December 22, 2005	WIPO			
	B142	WO 2005/123132	December 29, 2005	WIPO			
	B143	WO 2006/016174	February 16, 2006	WIPO			
	B144	WO 2006/016178	February 16, 2006	WIPO			
	B145	WO 2006/016194	February 16, 2006	WIPO			
	B146	WO 2006/040527	April 20, 2006	WIPO			
	B147	WO 2006/040528	April 20, 2006	WIPO			
	B148	WO 2006/040529	April 20, 2006	WIPO			
	B149	WO 2006/066613	June 29, 2006	WIPO			
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	C01	Alvarez et al. "Evidence that glucokinase regulatory protein is expressed and interacts with glucokinase in rat brain" J. Neurochem. 80(1):45-53 (2002)					
	C02	Alvarez et al. "Expression of the glucagon-like peptide-1 receptor gene in rat brain" J. Neurochem. 66(3):920-927 (1996)					
	C03	Anderson et al "Pyridopyrimidines. 6. Nucleophilic substitutions in the Pyrido[2,3-d]pyrimidine series" J. Org. Chem. 42(6):993-996 (1977)					
	C04	Ando et al. "Fluoride salts on alumina as reagents for alkylation of phenols and alcohols" Bull. Chem. Soc. Jpn., 55:2504-2507 (1982)					
	C05	Atwell, G. J. et al. "Potential antitumor agents. VI. Bisquaternary salts" J. Med. Chem. 11(2):295-300 (1968)					
	C06	Baker, R. et al. "Structure and synthesis of Pallescansin E utilizing a modified Wadsworth-Emmons reaction" J. Chem. Soc., Perkin Trans. 1, 12, pp 3087-3091 (1981)					
	C07	Baker, R. et al. "Synthesis of Pallescensin-E: use of crown ether in the Wadsworth procedure for olefin formation" Tetrahedron Lett. 22, pp 161-162 (1981)					
	C08	Balant et al. "Metabolic considerations, etc." Burger's Medicinal Chemistry, 5th edition, 1, Wollf ed. NY: John Wiley & Sons, p 949-982 (1995)					
	C09	Beilstein Registry Number 6511458 (18 Apr 1994) ; [XP002272206]					
	C10	Bell et al. "Glucokinase mutations, insulin secretion, and diabetes mellitus" Annu. Rev. Physiol. 58:171-186 (1996)					
	C11	Beller et al. "Photochemical synthesis of benzo[f]quinolines" J Org Chem. 42:3514-3518 (1977)					
	C12	Berl et al. "Induced fit selection of a barbiturate receptor from a dynamic configurational/conformational library" European J. Org. Chem. (11):3089-3094 (1999)					
	C13	Berl et al. "Template-induced and molecular recognition directed hierarchical generation of supramolecular assemblies from molecular strands" Chem. Eur. J., 6(11): 1938-1946 (2000)					
	C14	Bonina, F. et al. "Synthesis and pharmacologic activity of 2-arylethynylthiazol-4-acetic and 4-carboxylic acids" Farmaco, 40(11), p 875-884 (1985)					
	C15	Boucherle et al. "Recherches dans la serie des cetones polyphenoliques IV. Thiazoles" Chimica. Therapeutica., 3(5):360-363 (1968) (Translation enclosed)					
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	C16	Bowden et al. "Structure-activity relations. Part 10. Metal-ion-complexation studies of a series of substituted benzamidotetrazoles" J. Chem. Research (Synopses) 11:304 (1991)					
	C17	Bowden et al. "Structure-activity relations. Part 13. Inhibitors of cyclic nucleotide phosphodiesterase and anaphylaxis. Inhibition by a series of substituted benzamidotetrazoles" J. Chem. Research (Synopses) 6:206 (1992)					
	C18	Brocklehurst et al. "Stimulation of Hepatocyte Glucose Metabolism by Novel Small Molecule Glucokinase Activators" Diabetes 53:535-541 (2004)					
	C19	Caro et al. "Liver glucokinase: decreased activity in patients with type II diabetes" Horm. Metab. Res., 27(1):19-22 (1995)					
	C20	Carroll et al. "The in vitro characterisation of a novel Glucokinase activator" Stress, Signalling and Control, Biochemical Society Meeting 679, University of Essex, UK (2-4 July 2003)					
	C21	Caulfield et al. "The first potent and selective inhibitors of the glycine transporter type 2" J. Med. Chem., 44(17): 2679-2682 (2001)					
	C22	Cavier et al. "Recherches sur les derives nitres d'interet biologique. XVI. Relations entre structures et activites protozoocides, anthelminthiques et molluscicides dans la serie du benzamido-2 nitro-5 thiazole" European Journal of Medicinal Chemistry, Chimica Therapeutica, 13(6): 539-543 (1978) (Translation enclosed)					
	C23	Chemical Abstracts Service, Columbus, Ohio, US: CAS Registry No. 438028-05-8 (15 Nov 2001); CAS Registry No. 438024-90-9 (15 Nov 2001), [XP002272448]					
	C24	Chemical Abstracts Service, Columbus, Ohio, US: CAS Registry No. 445284-93-5 (9 Jul 2002); CAS Registry No. 445250-52-2 (9 Jul 2002); CAS Registry No. 445030-98-8 (9 Jul 2002); CAS Registry No. 445017-74-3 (9 Jul 2002); CAS Registry No. 444935-78-8 (9 Jul 2002); CAS Registry No. 444923-81-3 (9 Jul 2002); CAS Registry No. 438222-80-1 (9 Jul 2002); CAS Registry No. 438221-01-3 (9 Jul 2002); CAS Registry No. 354550-59-7 (9 Jul 2002); CAS Registry No. 438537-80-5 (9 Jul 2002); CAS Registry No. 353770-14-6 (9 Jul 2002); CAS Registry No. 352690-95-0 (9 Jul 2002); CAS Registry No. 353478-21-4 (9 Jul 2002); CAS Registry No. 353477-20-0 (9 Jul 2002); CAS Registry No. 353474-36-9 (9 Jul 2002); CAS Registry No. 362473-72-1 (9 Jul 2002); CAS Registry No. 303140-37-6 (9 Jul 2002); [XP002272449]					
	C25	Chemical Abstracts Service, Columbus, Ohio, US: CAS Registry No. 354767-51-4 (05 Sep 2001)					
	C26	Chemical Abstracts Service, Columbus, Ohio, US: CAS Registry No. 354767-66-1 (05 Sep 2001)					
	C27	Christesen et al. "The second activating glucokinase mutation (A456V): Implications for glucose homeostasis and diabetes therapy" Diabetes, 51(4):1240-1246 (2002)					
	C28	Ciaceri, G. et al. "Analgesic, antipyretic and antiphlogistic effect of several new acids of the phenylethylene-thiazole series" Minerva Med., 63(42), p 2409-2413 (1972)					
	C29	Coburn et al. "Mesoionic purinone analogs. IV. Synthesis and in vitro antibacterial properties of mesoionic thiazolo(3,2-a)pyrimidin-5,7-diones and mesoionic 1,3,4-thiadiazolo(3,2-a)pyrimidin-5,7-diones" J. Pharm. Sciences. 62(11):1785-1789 (1973)					
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	C30	Coghlan "Small molecule Glucokinase Activators (GKAs) as novel anti-diabetic agents" CIDEM seminar (May 2005)					
	C31	Coghlan "Small molecule Glucokinase Activators (GKAs) as novel anti-diabetic agents" Society for Medicines Research Seminar (June 2004)					
	C32	Corbett, "Track 3-mastering medicinal chemistry: applying organic chemistry to biological problems, success stories in medicinal chemistry" Molecular Medicine Tri-Conference, Moscone West Convention Center, San Francisco California, 3/26/05, 11:00-11:30, Glucokinase Activator: Discovery of Novel, Orally Active Glucose Lowering Agents, March 24-26, 2004					
	C33	Cushman et al. "Synthesis and evaluation of new protein-tyrosine kinase inhibitors. Part 1. pyridine-containing stilbenes and amides" Bioorganic & Medicinal Chemistry Letters, 1(4):211-214 (1991)					
	C34	DeFronzo et al. "The triumvirate: β -cell, muscle, liver. A collusion responsible for NIDDM" Diabetes 37:667-687 (1988)					
	C35	DeJohn, et al., "Functionalization of Substituted 2(1H)- and 4(1H)-Pyridones. III. The Preparation of Substituted 6-Vinyl-1,2-dihydro-2-oxo-- and 1,4-Dihydro-4-oxo-3-pyridinecarboxylic Acids through the Chemistry of Pyridone Dianions", J. Heterocyclic Chem., 20(5), p 1295-1302 (1983)					
	C36	De Paulis, T. et al. "Potential antipsychotic agents. 6. Synthesis and antidopaminergic properties of substituted N-(1-benzyl-4-piperidiny)salicylamides and related compounds. QSAR based design of more active members" Eur. J. Med. Chem., 25: 507-517 (1990)					
	C37	Desai et al. "Phenotypic correction of diabetic mice by adenovirus-mediated glucokinase expression" Diabetes 50:2287-2295 (2001)					
	C38	Edmont et al. "Synthesis and evaluation of quinoline carboxyguanidines as antidiabetic agents" Bioorg. Med. Chem. Lett. 10(16):1831-1834 (2000)					
	C39	Elpern et al. "Iodinated Benzamidotetrazoles" J. Org. Chem., 22: 1686 (1957)					
	C40	Ferre et al. "Correction of diabetic alterations by glucokinase" PNAS USA. 93(14): 7225-7230 (1996)					
	C41	Ford et al. "Synthesis and quantitative structure-activity relationships of antiallergic 2-hydroxy-N-1H-tetrazol-5-ylbenzamides and N-(2-hydroxyphenyl)-1H-tetrazole-5-carboxamides" J. Med. Chem., 29(4):538-549 (1986)					
	C42	Froguet et al. "Familial hyperglycemia due to mutations in glucokinase - Definition of a subtype of diabetes mellitus" New Engl. J. Med., 328:697-702 (1993)					
	C43	Fujimoto et al. "Administration of D-glucosamine into the third cerebroventricle induced feeding accompanied by hyperglycemia in rats" Life Sciences 37(26):2475-2482 (1985)					
	C44	Gill et al. "Stimulation of insulin release by a small molecule glucokinase activator" EASD Islet Study Group Abstract (November 2005)					
	C45	Glaser et al. "Familial hyperinsulinism caused by an activating glucokinase mutation" The New England Journal of Medicine, 338(4):226-230 (1998)					
	C46	Grimsby "Glucokinase activators-potential treatment for type 2 diabetes" Roche, SMi Diabetes, London, UK, p28-29 (2002)					
	C47	Grimsby et al. "Allosteric activators of glucokinase: potential role in diabetes therapy" Science 301(5631):370-373 (2003)					
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	C48	Grimsby, J. "Potential treatment for type 2 diabetes" Roche in-house Literature.					
	C49	Guertin et al. "Small Molecule Glucokinase Activators as Glucose Lowering Agents: A New Paradigm for Diabetes Therapy" Current Medicinal Chemistry, 13(15): 1839-1843 (2006)					
	C50	Hashimoto, Y. et al. "Evaluation of differentiation-inducing activity of retinoids on human leukemia cell lines HL-60 and NB4", Biol. Pharm. Bull., 19(10): 1322-1328 (1996)					
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